



**UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

*sc*

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/339,137 06/24/99 HOWLAND

C W0490/7005

EXAMINER

QM12/0425

NEIL P. FERRARO  
C/O WOLF GREENFIELD & SACKS PC  
FEDERAL RESERVE PLAZA  
600 ATLANTIC AVENUE  
BOSTON MA 02210-2211

MUROMOTO JR, R

ART UNIT

PAPER NUMBER

3741

3

DATE MAILED:

04/25/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

## Office Action Summary

Application No.

09/339,137

Applicant(s)

HOWLAND ET AL.

Examiner

Robert H Muromoto, Jr.

Art Unit

3741

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 June 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-97 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 and 76-89 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims 1-97 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some \* c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) \_\_\_\_\_.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

### Attachment(s)

- 14) ☒ Notice of References Cited (PTO-892)
- 15) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 16) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 17) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 18) ☐ Notice of Informal Patent Application (PTO-152)
- 19) ☐ Other: \_\_\_\_\_.

Art Unit: 3741

**DETAILED ACTION**

***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-24, 76-88 and 89 drawn to a penetration resistant garment, classified in class 2, subclass 2.5.
- II. Claims 25-48, drawn to a penetration resistant garment, classified in class 2, subclass 2.5.
- III. Claims 49-52, drawn to adjustable panels within a penetration resistant garment, classified in class 2, subclass 2.5.
- IV. Claims 53-56, drawn to penetration resistant garments with a removable cover, classified in class 2, subclass 2.5.
- V. Claims 57-62, drawn to hardening material, classified in class 428, subclass 544.
- VI. Claims 63 and 64, drawn to penetration resistant garment, classified in class 2, subclass 2.5.
- VII. Claim 65, drawn to a penetration garment, classified in class 2, subclass 2.5.
- VIII. Claim 66, drawn to a method of donning a penetration resistant garment, classified in class 2, subclass 2.5.
- IX. Claims 67-75, drawn to a penetration resistant panel, classified in class 428, subclass 911.

Art Unit: 3741

- X. Claims 90-97, drawn to panel construction, classified in class 428, subclass 911.

The inventions are distinct, each from the other because: the Groups drawn to a penetration resistant garment all contain differing limitations which renders them all separate distinct inventions.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

During a telephone conversation with Neil Ferraro on February 15th a provisional election was made without traverse to prosecute the invention of Group I, claims 1-48, and 76-89. Affirmation of this election must be made by applicant in replying to this Office action. Claims 49-75 and 90-97 have been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Art Unit: 3741

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation "said continuous layer" in both claims has no clear antecedent basis.

***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 6-11, 16-19, 76, 79-81, 85-88 and 89 are rejected under 35 U.S.C. 102(b) as being anticipated by Fritch.

Fritch discloses protective body armor which utilizes multiple panels assembled to provide body armor inserts to be worn under regular clothing. Each panel consists of a ply of titanium metal bonded to a ply of aramid fiber woven cloth. The panels are arranged in overlapping and in abutting relationship but are not joined to each other, which allows for some degree of flexing and adjustment to the body of the wearer.

Art Unit: 3741

More specifically, the insert, which is formed from multiple panels, includes a first felted ply (22), composed of aramid fibers in felted form which is bonded to the cloth plies (14) of the panels (10). A second felted ply (24) composed of aramid fibers in felted form is bonded to the titanium plies (12) of the panels (10). Panels (10) in strip form cover the seams formed by abutting edges. These strip panels (10) like the rest of the panels (10) are formed of a titanium ply (12) bonded to a cloth ply (14) made of woven aramid fibers.

A third felted ply (26) composed of aramid fibers is bonded to the strips (10) and to the second felted ply (24) to hold strips (10) in place and to provide cushioning. The third felted ply (26) is closest to the wearer's body.

These body armor assemblages are enclosed in a woven nylon shell (27) and are normally inserted into a rather large pocket arrangement in a shirt or other garment made for that purpose.

Referring to figs. 6 and 7 Fritch also clearly shows the garment with straps for the wearer of the garment.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3741

Claims 4, 5, 12, 77, and 78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fritch in view of Golembiowski.

Although Fritch teaches many of the limitations of the instant invention Fritch does not teach the use of pivot pins and hook and loop fasteners to connect penetration resistant panels nor does Fritch teach the garment configured to be worn exclusively on the back or the front of a wearer.

However, Golembiowski teaches a soldier's protector vest which utilizes overlapping armor plates that are riveted together so as to keep them in place while still allowing them to pivot and flex with the body of the wearer (col. 2 lines 90-100). Golembiowski also teaches that the vest can be worn on the back or the front or on both to protect a desired area of the wearer's body.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use pivot pins to connect protective panels of a protective garment to allow the panels freedom to move while still holding them in place, as well as configuring a protective garment to protect either the front or back of a wearer.

As for the use of hook and loop fasteners to connect protective panels in a protective garment, it is well known in the problem solving realm of connection devices to use hook and loop type fasteners to provide releasability to the particular articles to be connected.

Art Unit: 3741

Therefore it would have been obvious to one of ordinary skill in the art to use hook and loop type fasteners to releasably connect protective panels in a protective garment.

Claims 13-15 and 82-84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fritch in view of Golembiowski as applied to claims 4, 5, 12, 77, and 78 above, and further in view of Donzis.

Although the combined teachings of Fritch and Golembiowski essentially teach all of the limitations of the instant invention, they do not teach the configuration of the backing of the panels.

However, Donzis teaches an impact absorbing pad in which the rigid impact absorbing area (S) is on the exterior of the padded portions (P) which cover a larger area than that of the rigid portions (S) as seen in the figs. 1-3. This configurations ensures the force is decreased that is experienced by the underlying bone portions (col. 4 lines 20-50).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to manufacture a penetration resistant pad with the same configuration as the pad of Donzis to dissipate the force experienced by the underlying bone.

Claims 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fritch in view of Golembiowski and further in view of Donzis as applied to claims 4, 5, 12, 13-15, 77, 78 and 82-84 above, and further in view of Flosi et al.



Art Unit: 3741

Although the combined teachings listed above teach essentially all of the limitations of the instant invention, they do not teach the specific configuration of panels into a full body protective garment.

However, Flosi et al., teaches a body protector for riders with multiple panels pivotally connected to protect the entire upper body of the wearer, including elbow, ribs, torso, groin, shoulders, etc. It would be an obvious jump within the problem solving area of body protection to further include panels over the rest of the body (legs, shins, thighs, etc.) to further protect the wearer.

Therefore it would have been obvious to one of ordinary skill in the art to provide protective panels over the entire body to protect the entire body of the wearer.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Blaker et al. teaches a protective vest with overlapping panels, Higuchi teaches a body protector with overlapping panels, Chaput teaches armor with flexible membranes, Howland teaches a protective fabric with high penetration resistance, Mazelsky teaches flexible body armor, Sacks et al. teaches flexible body armor with overlapping panels, Neal et al. teaches a protective apparatus with overlapping panels.


Art Unit: 3741

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert H Muromoto, Jr. whose telephone number is 703-306-5503. The examiner can normally be reached on 8-530, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Calvert can be reached on 703-305-1025. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-3540 for regular communications and 703-308-0758 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.

bhm  
April 20, 2000

  
JOHN J. CALVERT  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700